



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/526,003

02/25/2005

Helmut Seidlitz

HAFTOM P02AUS

9610

20210 7590 05/15/2008  
DAVIS BUJOLD & Daniels, P.L.L.C.  
112 PLEASANT STREET  
CONCORD, NH 03301

EXAMINER

DRODGE, JOSEPH W

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

05/15/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/526,003	<b>Applicant(s)</b> SEIDLITZ ET AL.	
	<b>Examiner</b> Joseph W. Drodge	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 9-11 and 13-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-11 and 13-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

Claims 11 and 13-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 11 "*appropriate* discharge openings" is vague and indefinite.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Podbielniak patent 2,281,796. Podbielniak discloses: a method for extracting impurities from liquids such as lubricating oils, using compressed solvents in counter-current contact and contact with carbon dioxide that may be in the form of a vapor (page 3, at column 1, lines 1-11 and 57-67), applying the liquid as a thin film (page 2, lines 28-36) in a pressurized (pressure-tight) manner (column 2, lines 65-75 of page 2 and see page 2 at column 2, lines 57-65 concerning sealing), mechanically acting on the liquid as it flows as a film by flow action of the rotor (page 2, column 2, lines 28-36), the liquid being treated, solvent liquid and carbon dioxide all being separately discharged (carbon dioxide by lines 21/51 – page 3, line 11), (liquids through collecting line and openings 29 - page 2, line 35 etc.).

The claims differ in requiring that the carbon dioxide be in liquid or supercritical form. However, Kanel et al teach solvent extraction utilizing such liquid/supercritical carbon dioxide and expounds upon a plethora of advantages of using such (columns 1-2, etc.) and concerns solvent extraction for treating oils (page 5, lines 24-53 or column 1, lines 54-63) and extraction using columnar vessels, countercurrent flow and varied internal agitation and mixing implements (column 6, lines 35-45 and column 6, line 54-column 7, line 7). It would have been obvious to have modified the Podbielniak method and device, by either employing the carbon dioxide in liquid/supercritical form, or employing such carbon dioxide as alternative to the disclosed solvents, as taught by Kanel et al, since such form of carbon dioxide has greatly enhanced salvation power.

Claims 10,11 and 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Podbielniak patent 2,281,796 in view of Vaughan patent 2,819,015.

Podbielniak discloses: a method for extracting impurities from liquids such as lubricating oils, using compressed solvents in counter-current contact and contact with carbon dioxide that may be in the form of a vapor (page 3, at column 1, lines 1-11 and 57-67), applying the liquid as a thin film (page 2, lines 28-36) in a pressurized (pressure-tight) manner (column 2, lines 65-75 of page 2 and see page 2 at column 2, lines 57-65 concerning sealing), mechanically acting on the liquid as it flows as a film by flow action of the rotor (page 2, column 2, lines 28-36), the liquid being treated, solvent liquid and carbon dioxide all being separately discharged (carbon dioxide by lines 21/51 – page 3, line 11), (liquids through collecting line and openings 29 - page 2, line 35 etc.). The device is contained in a column that may function as a reactor (page 3, lines 54-58 teach “chemical action”).

The claims differ in requiring that the carbon dioxide be in liquid or supercritical form. However, Kanel et al teach solvent extraction utilizing such liquid/supercritical carbon dioxide and expounds upon a plethora of advantages of using such (columns 1-2, etc.) and concerns solvent extraction for treating oils (page 5, lines 24-53 or column 1, lines 54-63) and extraction using columnar vessels, countercurrent flow and varied internal agitation and mixing implements (column 6, lines 35-45 and column 6, line 54-column 7, line 7). It would have been obvious to have modified the Podbielniak method and device, by either employing the carbon dioxide in liquid/supercritical form, or employing such carbon dioxide as alternative to the disclosed solvents, as taught by Kanel et al, since such form of carbon dioxide has greatly enhanced salvation power.

Art Unit: 1797

Claims 10,11,13 and 15-17 all further differ in requiring that the rotor carry both radial arms and rods, scrapers, wipers or rollers that extend axially or in the direction of axis of rotation of the rotor. Vaughan teaches , in a solvent extraction device (column 1, lines 22-35), to employ a cylindrical rotor (9/60/62) having vanes 12, and annular arms 53 that extend radially from the rotor and also vanes (rods) that extend axially from and between the arms along the rotors (column 3, lines 15-35). It would have been also obvious to have utilized the arms and axially extending rods/vanes of Vaughan to the Podbielniak method and device, in order to form enhanced mixing action to contact the entire liquid flow volume in the Podbielniak device and method with solvent and carbon dioxide.

For claim 10, Podbielniak adjusts the thickness of the film by varying internal pressures with a pressure regulator 48 (page 3, line 9). The column is cylindrical for claim 13, and has sealing lids 17 with flanges at opposite ends for claims 15 and 16.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Podbielniak patent 2,281,796 in view of Vaughan patent 2,819,015, as applied to claims 10,11 and 13-17, and further in view of Holl patent 6,752,529 of record. Claim 14 also requires rotor being driven/connected to magnetic coupling. Holl suggest such magnetic coupling (column 5, lines 42-55) in a devive for reacting liquids with high speed rotor. It would have been further obvious to have utilized the magnetic coupling of Holl to drive the Podbielniak rotor, in order to maintain a faster rotational yspeed of rotor and blades so as to effect a faster more thorough mixing and contacting.

Applicant's arguments filed on 17 March 2008 have been fully considered but they are not persuasive, and are also moot in view of the new grounds of rejection, however are addressed to the extent they remain pertinent. It is argued that all of the prior art effects mixing whereas the instant invention does not require any mixing. It is submitted that the claims do not contain any language regarding presence or absence of mixing and do not preclude such mixing being present.

Regarding argument directed to rotor speeds, again there is no claim language specifying or limiting the speed of the rotor.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Drodge at telephone number 571-272-1140. The examiner can normally be reached on Monday-Friday from

8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Roy Sample, can be reached at 571-272-1376. The fax phone number for the examining group where this application is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either private PAIR or Public PAIR, and through Private PAIR only for unpublished applications. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JWD  
May 12, 2008

/Joseph W. Drodge/  
Primary Examiner, Art Unit 1797